

Supporting Information

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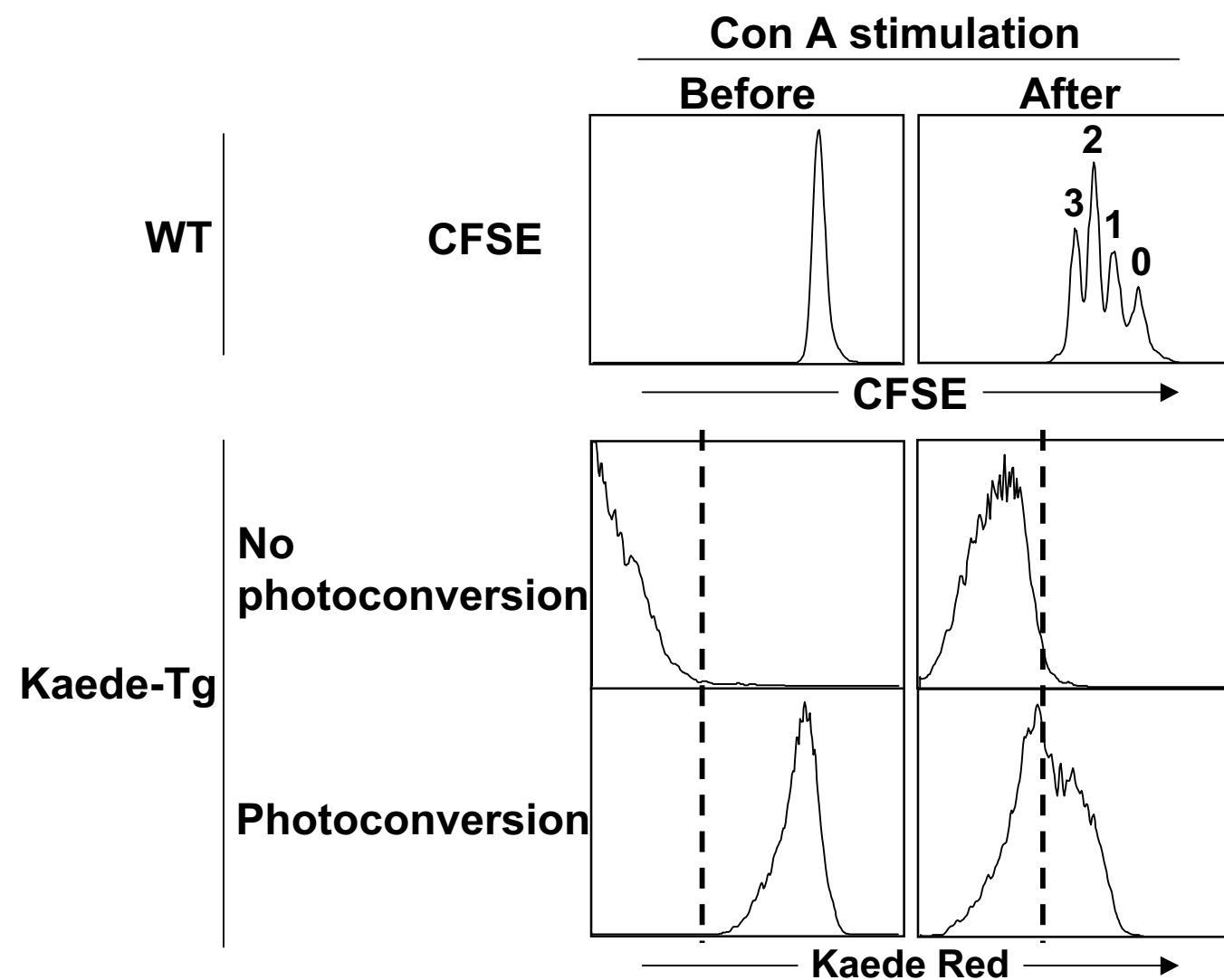


Fig. S1. Dilution of photoconverted Kaede by cell proliferation. CFSE (Dojindo, 5 mM for 10 min at 37°C)-labeled spleen cells from wild-type mice and photoconverted (5 min) and non-photoconverted spleen cells from Kaede transgenic mice were stimulated with Con A (5 μ g/ml) for 2 days. Cells were subjected to flow cytometry before and after stimulation.

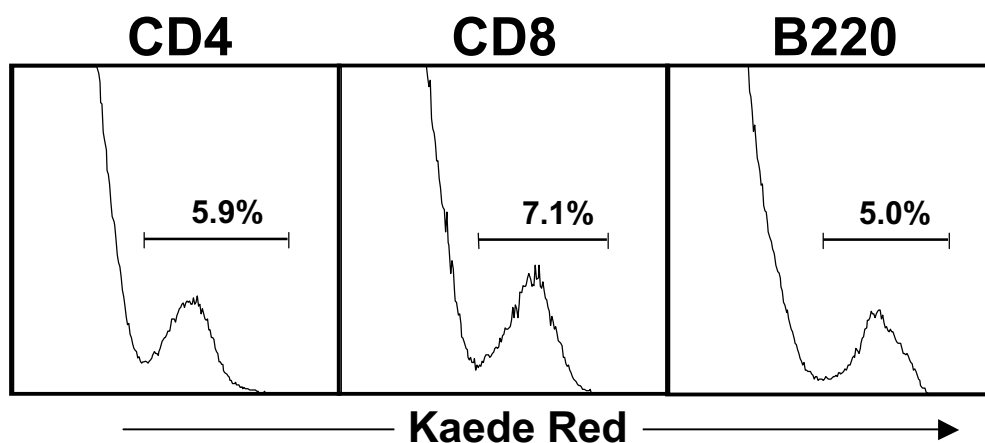


Fig. S2. Stability of photoconverted Kaede-positive cells in CD4⁺, CD8⁺, and B220⁺ cell populations. Bilateral inguinal lymph nodes were exposed to violet light in the same manner as that shown in Fig. 2. Seven days after photoconversion, cells from photoconverted inguinal lymph node and nonphotoconverted other peripheral lymph nodes were pooled, stained with indicated Abs (APC-conjugated anti-CD4, anti-CD8, or anti-B220 mAb), and subjected to flow cytometry. The number in each histogram indicates the percentage of photoconverted Kaede-positive cells in each cell population.

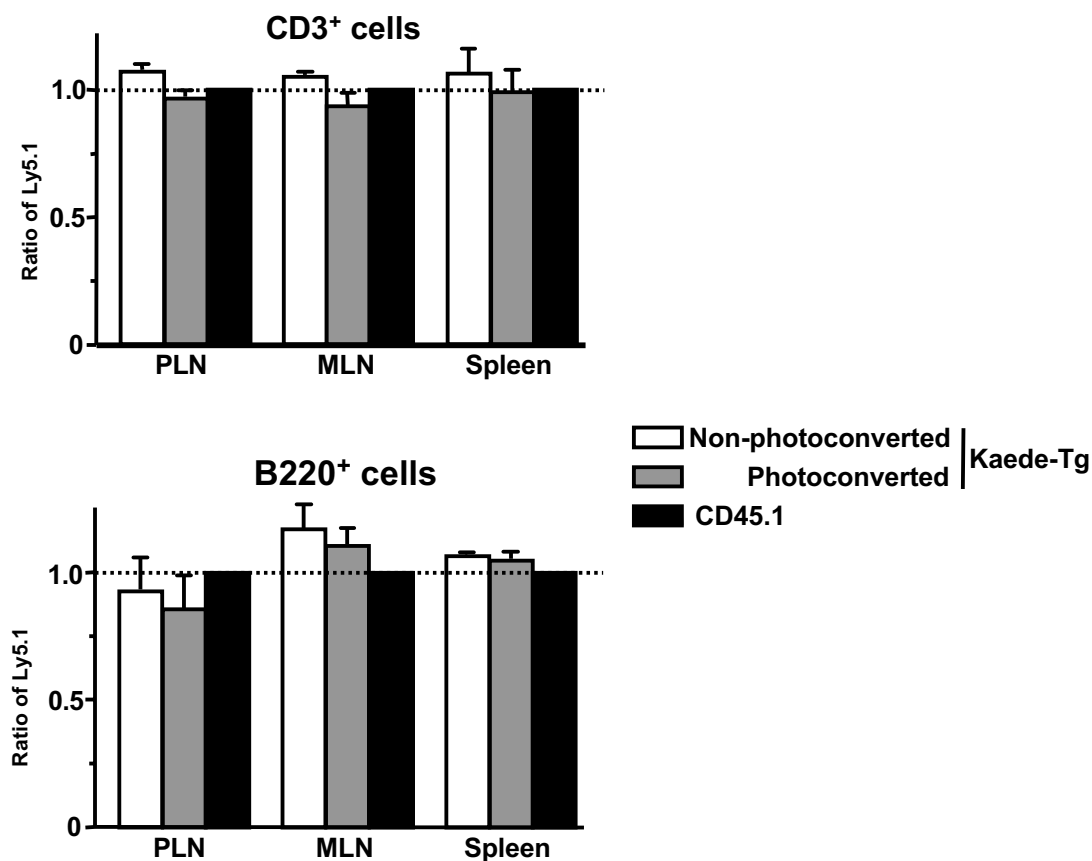


Fig. S3. Homing of CD3⁺ cells and B220⁺ cells of photoconverted cells and nonphotoconverted cells from Kaede transgenic mice and cells from CD45.1 mice after transfer. Single cell suspensions from peripheral lymph nodes (cervical, brachial, axillary, inguinal, and popliteal), mesenteric lymph nodes, and spleen from Kaede transgenic mice and CD45.1 mice were prepared. Half of the cells from Kaede transgenic mice were exposed to violet light for 5 min in the same manner as that shown in Fig. 1C. Photoconverted cells (1×10^7 cells) and nonphotoconverted cells (1×10^7 cells) from Kaede transgenic mice and cells from CD45.1 mice (1×10^7 cells) were mixed and injected intravenously into C57BL/6 mice. Two hours after transfer, cells from peripheral lymph nodes, mesenteric lymph nodes, and spleens were stained with PE-Cy7-conjugated anti-CD45.1 and APC-conjugated anti-CD3 and anti-B220 mAbs and subjected to flow cytometry. Data are shown for CD3⁺ cells and B220⁺ cells and have been corrected for the ratio after injection (error bar shows standard deviation of three mice).

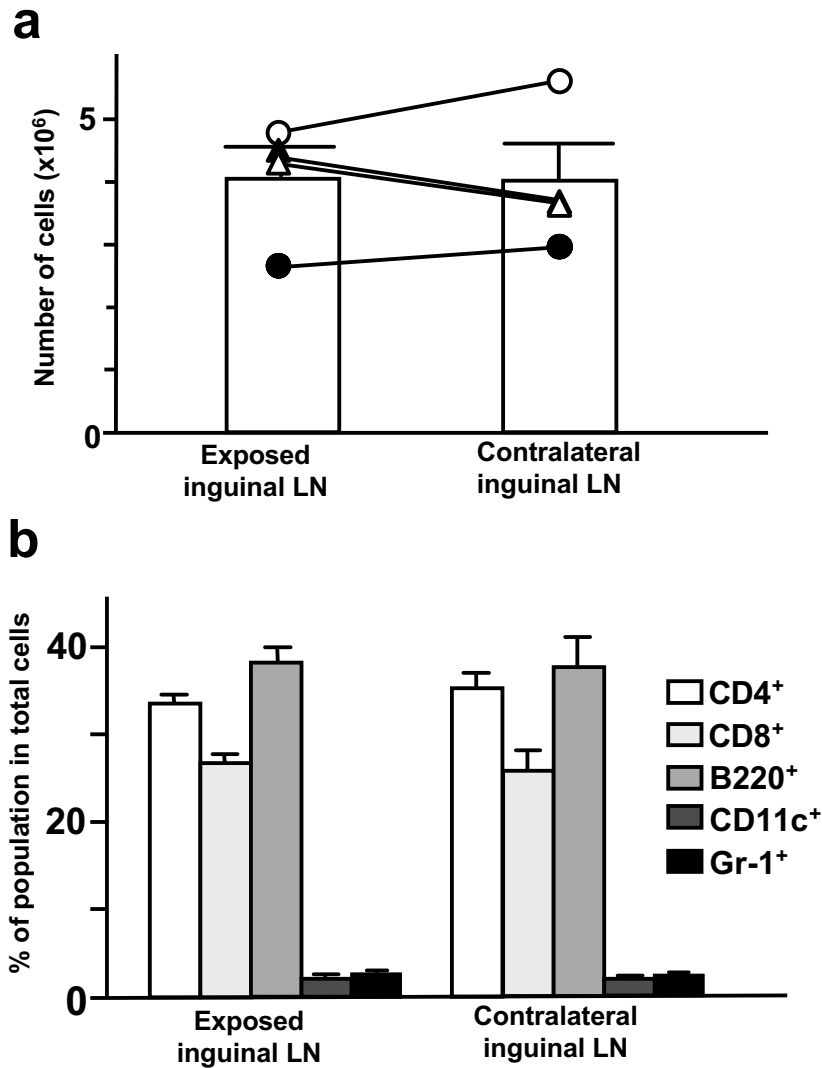


Fig. S4. Cell numbers and CD4⁺, CD8⁺, B220⁺, CD11c⁺, and Gr-1⁺ cell populations in exposed and contralateral inguinal lymph nodes. Inguinal lymph nodes of C57BL/6 wild-type mice ($n = 4$) were exposed to violet light in the same manner as that shown in Fig. 2. Twenty-four hours after exposure, cells from exposed inguinal lymph node (exposed inguinal LN) and contralateral inguinal lymph node (contralateral inguinal LN) were counted and stained with the indicated Abs (anti-CD4, anti-CD8, anti-B220, anti-CD11c, and Gr-1 mAbs) and subjected to flow cytometry. (a) Cell numbers in exposed and contralateral inguinal lymph nodes (error bar shows standard error of four mice). The same symbol was used to represent exposed and contralateral inguinal lymph nodes from the same mouse. (b) Proportions of CD4⁺, CD8⁺, B220⁺, CD11c⁺, and Gr-1⁺ cells in exposed and contralateral inguinal lymph nodes (error bar shows standard error of four mice). Similar results were obtained with the analysis of lymph node cells on days 2 and 3 after photoconversion.

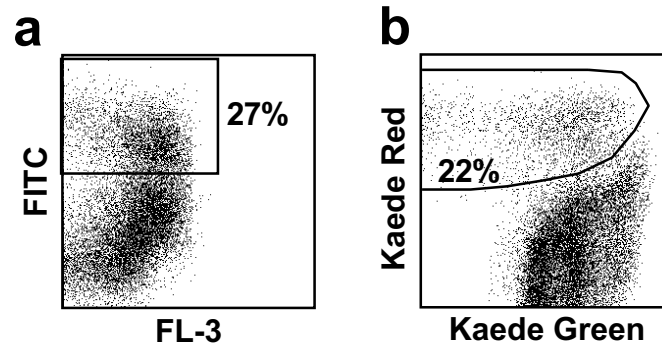


Fig. S5. Migration of skin dendritic cells to draining lymph node under inflammatory conditions. (a) Dorsal skin of C57BL/6 mice was painted with 0.1% of FITC in a 1:1 mixture of acetone:dibutylphthalate solution (20 μ l). (b) The violet light-exposed area of dorsal skin of Kaede transgenic mice was painted with a 1:1 mixture of acetone:dibutylphthalate solution (20 μ l). Twenty-four hours after epicutaneous application, dendritic cells in draining brachial lymph nodes were gated by means of anti-CD11c mAb staining and analyzed for the presence of FITC-positive (a) or photoconverted Kaede-positive (b) skin-derived cells. Four animals were independently analyzed for each group with similar results, and the results of one representative analysis are shown.

Table S1. Cellular migration from photoconverted inguinal lymph nodes to various organs

Organ	% of photoconverted cells	
	Total cells	CD11c ⁺ cells
Spleen	2.3 ± 0.26	1.8 ± 0.24
Bone marrow	0.88 ± 0.31	0.74 ± 0.18
Liver	2.0 ± 0.45	0.65 ± 0.12
Lung	2.4 ± 0.24	0.90 ± 0.078
Thymus	0.026 ± 0.003	0.048 ± 0.006

Bilateral inguinal lymph nodes were exposed to violet light in the same manner as shown in Fig. 2. Twenty-four hours after photoconversion, the presence of CD11c⁺ cells with photoconverted Kaede in spleen, bone marrow, liver, lung, and thymus was analyzed by flow cytometry. To analyze CD11c⁺ cells in liver and lung, hepatic and pulmonary mononuclear cells were prepared according to a method described previously [Nakagawa R, et al. (2001) Mechanisms of the antimetastatic effect in the liver and of the hepatocyte injury induced by alpha-galactosylceramide in mice. *J Immunol* 166:6578–6584]. Numbers in the table indicate percentages of photoconverted cells in total cells and CD11c⁺ cell population and are shown as means ± SE of three mice.